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September 16, 2005

Louisiana Department of Environmental Quality Office of Environmental Services P.O. Box 4313 Baton Rouge, Louisiana 70821-4313 Attn: Ms. Beth Scardina

Simple JOSCU SW/G1/Jaunsel AUG

Ref: Sid Richardson Carbon Company

Type I Surface Impoundment Permit Application

GD-121-0097

Agency Interest Number 4174 V

Providence Engineering Project Number 141-010

Dear Ms. Scardina:

Providence Engineering and Environmental Group LLC (Providence Engineering), on behalf of Sid Richardson Carbon Company (Sid Richardson), hereby submits the complete modified solid waste permit application incorporating all previously accepted revisions to the 2002 document.

Please do not hesitate to contact me at (225) 766-7400 if you have any questions or if you need additional information.

Sincerely,

Providence Engineering and Environmental Group LLC

Yolunda M. Righteous

Environmental Science Project Manager

cc: Herb Harless, Sid Richardson

Celeste Bonnecaze, LDEQ Cynthia Clark, LDEQ

Stephen Tassin, LDEQ

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LDEQ

SID RICHARDSON CARBON COMPANY ADDIS FACILITY

SOLID WASTE PERMIT RENEWAL APPLICATION

GD-121-0097/P-0159 AGENCY INTEREST NUMBER 4174

EAST AND WEST SURFACE IMPOUNDMENTS

SEPTEMBER 2005



LDEQ

PREPARED BY:
PROVIDENCE ENGINEERING AND ENVIRONMENTAL GROUP LLC
6160 PERKINS ROAD, SUITE 100
BATON ROUGE, LOUISIANA 70808
PROVIDENCE ENGINEERING PROJECT NO. 141-010

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INTRODUCTION

Sid Richardson Carbon Company (Sid Richardson) currently operates a Type I Industrial Surface Impoundment in Addis, Louisiana. In accordance with the Louisiana Administrative Code (LAC), LAC 33:VII.Subpart 1 Solid Waste Regulations, Sid Richardson is submitting a permit renewal application to the Louisiana Department of Environmental Quality (LDEQ), Office of Environmental Services, Permits Division to renew their Standard Permit (P-0159). The facility is located at 5221 Sid Richardson Road in Addis, Louisiana approximately 1.25 miles west of Louisiana Highway 1.

The approval of the permit renewal application would allow for the continued operation of the existing solid waste landfill.

PART I PERMIT APPLICATION FORM

Media Type (check one) Hazardous Waste So id Waste Radiation Licensing		Agency Interest Number: Air Water			
Department of Environmental Quality Permits Division P.O. Box 82135 Baton Rouge, LA 70884-2135 (225) 765-0219			Permit Applications per C 33:I.1701	LDEQ . TE	
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statements, that be contained in this A complete. Responsible Off Name HERP Title DIRECT Company Suite, mail drop, Suite, mail drop, Street of P.O. Bo	ovisions in Louisian ased on information Addendum to the Perical HARLESS or of SAFET or division 3000	and belief formed a rmit Application, in	law which provide criminal pena fter reasonable inquiry, the statem cluding all attachments thereto ar	nents and information	

Department may require the submission of additional information if it deems such information necessary.



SECRETARY OF STATE

As Secretary of State, of the State of Louisiana, I do hereby Certify that

SID RICHARDSON CARBON & GASOLINE CO.

A TEXAS corporation domiciled at FORT WORTH,

Filed charter and qualified to do business in this State on December 12, 1955,

I further certify that the records of this Office indicate the corporation has paid all fees due the Secretary of State, and so far as the Office of the Secretary of State is concerned is in good standing and is authorized to do business in this State.

I further certify that this Certificate is not intended to reflect the financial condition of this corporation since this information is not available from the records of this Office.

In testimony whereof, I have hereunto set my hand and caused the Seal of my Office to be affixed at the City of Baton Rouge on,

October 25, 2002

ABA 23206480F

Secretary of State



PART II

SUPPLEMENTARY INFORMATION, ALL PROCESSING AND DISPOSAL FACILITIES

LOUISIANA ADMINISTRATIVE CODE TITLE 33 - ENVIRONMENTAL QUALITY PART VII - SOLID WASTE

§521. Part II: Supplementary Information, All Processing and Disposal Facilities

The following information is required in the permit application for solid waste processing and disposal facilities. All responses and exhibits must be identified in the following sequence to facilitate the evaluation. Additionally, all applicable sections of LAC 33:VII.Chapter 7 must be addressed and incorporated into the application responses. If a section does not apply, the applicant must state that it does not apply and explain why.

- A. Location Characteristics. Standards pertaining to location characteristics are contained in LAC 33:VII.709.A (Type I and II facilities), LAC 33:VII.717.A (Type I-A and II-A facilities, and LAC 33:719.A (Type III facilities).
 - 1. The following information on location characteristics is required for all facilities:
 - a. Area Master Plans a location map showing the facility, road network, major drainage systems, drainage-flow patterns, location of closest population center(s), location of the public-use airport(s) used by turbojet aircraft or piston-type aircraft, proof of notification of affected airport and Federal Aviation Administration as provided in LAC 33:VII.709.A.2, location of the 100-year flood plain, and other pertinent information. The scale of the maps and drawings must be legible, and engineering drawings are required.

The Area Master Plan is included in this application as **Figure 1**. The Area Master Plan shows the location of the facility, road networks, major drainage systems, drainage flow patterns, location of closest population centers, and location of the 100-year flood plain, LAC 33:VII.709.A.2 does not apply, because the facility does not dispose of putrescible solid waste and the facility is not a Type II landfill.

A Flood Plain Map is provided in **Figure 2** and shows the location of the local 100-year flood plain with respect to the facility.

Access to Sid Richardson Carbon Company is by LA. Hwy 1, Sid Richardson Road, and in-plant roadways. These

roadways are accessible in all weather and meet the needs of the facility.

b. A letter from the appropriate agency or agencies regarding those facilities receiving waste generated offsite, stating that the facility will not have a significant adverse impact on the traffic flow of area roadways and that the construction, maintenance, or proposed upgrading of such roads is adequate to withstand the weight of the vehicles.

Not Applicable. No waste is received from off site.

- c. Existing Land Use a description of the total existing land use within three miles of the facility (by approximate percentage) including, but not limited to:
 - i. residential;

Within three (3) miles of the site, approximately 10% of the land use is residential. The greatest concentration of single-family home sites is located in the town of Addis (approximately 2 miles from the site).

ii. health-care facilities and schools;

Within three (3) miles of the site, health-care facilities and schools located in the town of Addis make up approximately 1% of the land use.

iii. agricultural;

Within three (3) miles of the site, approximately 35% of the land use is agricultural.

- iv. industrial and manufacturing;
 Within three (3) miles of the site, approximately 10% of the land use is industrial and manufacturing.
- v. other commercial;

Within three (3) miles of the site, other commercial and small businesses located in the town of Addis make up approximately 4% of the land use.

vi. recreational; and

No public use recreational facilities are known to exist within a three-mile radius of the facility.

vii. undeveloped.

Approximately 40% of the land within a three-mile radius of the facility is undeveloped.

d. Aerial Photograph—a current aerial photograph, representative of the current land use, of a one-mile radius surrounding the facility. The aerial photograph shall be of sufficient scale to depict all pertinent features. (The administrative authority may waive the requirement for an aerial photograph for Type III facilities.)

A current aerial photograph depicting the current land use within a one-mile radius of the facility is provided as **Figure 3**.

- e. Environmental Characteristics—the following information on environmental characteristics:
 - i. a list of all known historic sites, recreation areas, archaeologic sites, designated wildlife-management areas, swamps and marshes, wetlands, habitats for endangered species, and other sensitive ecological areas within 1000 feet of the facility perimeter or as otherwise appropriate:

There are no known historical sites, recreational areas, archaeologic sites, designated wildlife-management areas, swamps, marshes, habitats for endangered species or other sensitive ecologic areas within 1,000 feet of the facility perimeter.

ii. documentation from the appropriate state and federal agencies substantiating the historic sites, recreation areas, archaeological sites, designated wildlife-management areas, wetlands, habitats for endangered species, and other sensitive ecological areas within 1,000 feet of the facility; and

Documentation from the Department of Wildlife and Fisheries, Army Corps of Engineers and Department of Culture, Recreation and Tourism substantiating LAC 33: VII.521.A.I.e.i is included in **Appendix C**.

iii. a description of the measures planned to protect the areas listed from the adverse impact of operation at the facility;

The facility is designed to preclude contaminated storm water runoff from leaving the facility. Water discharged from the surface impoundments is regulated by the water discharge permit to ensure that there are no impacts to the wetlands in the vicinity of the facility.

f. A wetlands demonstration, if applicable, as provided in LAC 33:VII.709.A.4.

Not Applicable. The facility received waste prior to October 9, 1993.

g. Demographic Information—the estimated population density within a three-mile radius of the facility boundary, based on the latest census figures.

According to the U.S. Census Bureau – 2000 Census, the population density of West Baton Rouge parish is 113 persons per square mile. The estimated population density within a three-mile radius of the facility boundary is 72 persons per square miles.

- 2. The following information regarding wells, faults and utilities is required for Type I and II facilities:
 - a. Wells. Map showing the locations of all known or recorded shot holes and seismic lines, private water wells, oil and/or gas wells, operating or abandoned, within the facility and within 2,000 feet of the facility perimeter and the locations of all public water systems, industrial water wells, and irrigation wells within one mile of the facility. A plan shall be provided to prevent adverse effects on the environment from the wells and shot holes located on the facility.

The location of all known or recorded shot holes and seismic lines, private water wells, oil and/or gas wells,

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operating or abandoned within 2,000 feet of the subject property is plotted on the water well location map located in Figure 4. Supporting well information is located in Appendix D. Four (4) monitoring wells, two (2) active process water wells and one (1) plugged and abandoned well is located on the subject property. The two (2) active water wells (121-118 and 121-203) at the Sid Richardson site are drilled to a depth of 233 feet and 358 feet respectively with pumps set at 80 feet. The water withdraw rate from each well is approximately 250 gpm. The plugged well (121-117) was drilled into sands to depth of 227 feet. The four (4) monitoring wells are drilled to a depth of approximately 20 feet. To prevent any adverse effects on the environment from the wells, all wells were installed according to Louisiana Department of Transportation and Development (LDOTD) recommendations. Plant personnel inspect the well pads for any condition that may allow well contamination from surface waters seeping down the annular space. Monitoring wells are sampled and analyzed on a semi-annual basis according to LDEQ Solid Waste regulation to monitor the quality of ground water at the facility.

Other wells within the requested 2,000-foot radius are:

Well#	Well Description		
047-5267Z	150 foot domestic water well		
047-6165Z	190 foot domestic water well		
121-182	150 foot commercial public supply well		
121-198	160 foot industrial water well serving a metal industry		
121-5863Z	150 foot domestic water well		

b. Faults

 scaled map showing the locations of all recorded faults within the facility and within one mile of the perimeter of the facility; and

> A scaled map showing the locations of faults within the facility and within one mile of the perimeter of the facility is located **Figure 5**.

ii. demonstration, if applicable, of alternative fault setback distance as provided in LAC 33:VII.709.A.5.

Not Applicable. The facility received waste prior to

October 9, 1993.

c. Utilities. Scale map showing the location of all pipelines, power lines, and right-of-ways within the site.

Please see **Figure 6** for pipelines, power lines and right-of-ways within the site.

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- B. Facility Characteristics. Standards concerning facility characteristics are contained in LAC 33:VII.709.B (Type I and II facilities), LAC 33:VII.717.B (Type I-A and II-A facilities), and LAC 33:VII.719.B (Type III facilities). A facility plan, including drawings and a narrative, describing the information required below must be provided.
 - 3. The following information is required for all facilities:
 - a. elements of the process or disposal system employed, including, as applicable, property lines, original contours (shown at not greater than five-foot intervals), buildings, units of the facility, drainage, ditches and roads:

Property lines, original contours, buildings, units of the facility, drainage, ditches and roads are shown on **Figure 6**. Elements of the disposal system are the subject solid waste management units East and West Ponds (S.W. Permit #P-0159).

b. the perimeter barrier and other control measures;

A multi-strand barbed wire security fence surrounds the East and West Ponds. Steel gates used to control access by plant personnel, contract workers and utility vehicles are kept locked during normal operating hours. The facility is operated 24 hours a day, seven days a week. As per permit requirements, the surface impoundments are inspected on a daily basis for adverse operating conditions. Warning signs posted on the security fence are used to communicate to personnel "Keep Out - Authorized Personnel Only." With the exception of undetected forced entry, the security fence is a satisfactory deterrent to unauthorized entry by persons or livestock.

c. a buffer zone:

Please see **Figure 6** for perimeter barrier. The East and West ponds are bounded on all sides by a minimum of a 200-foot buffer zone between the surface impoundments and adjacent property. No storage processing or disposal of solid waste occurs within the buffer zone.

d. fire-protection measures;

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The production facility is equipped with a fire protection system including underground water mains, fire hoses on

reels and portable fire extinguishers. Fire protection is also supplied by the Addis Fire Department. It is highly unlikely the waste in the impoundment will ignite and burn. Carbon black, soil, and sands entering the surface impoundments are suspended in water.

External fire, ambulance, and rescue services are available from the town of Addis (3 miles), Plaquemine (6 miles), and Baton Rouge (12 miles). Telephone numbers for emergency services are readily available in the general office and in the control. The control room is manned 24 hours per day. A more detailed discussion is presented in the facility's Emergency Action Plan.

e. landscaping and other beautification efforts;

Earthen dikes surrounding the subject surface impoundment are covered with grass to keep erosion in check. To facilitate daily inspections, the grass is mowed on a routine basis.

f. devices or methods to determine, record, and monitor incoming waste;

The facility does not receive waste from off-site sources. Solid waste entering the surface impoundments consist of settable solids suspended in storm water runoff and wash water. A measuring device to determine, record, or monitor incoming waste is impractical. Averaging the amount of carbon black removed from the impoundments during routine maintenance operation has proven to provide an accurate estimate of the solid waste entering the impoundments. Averaging flow data collected during LPDES sample events provides an accurate estimate of the amount of water entering the impoundments. From 2001 -2002 records, it is estimated solid waste, and process water enters the impoundments at a rate of 500 wet-weight tons per year. All waste disposed at the facility is generated on-site. Only one waste type is disposed at the facility, carbon black, which is an industrial solid waste. Hazardous waste, PCB's, and unauthorized or unpermitted wastes are not allowed.

g. NPDES discharge points (existing and proposed); and

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Please see **Figure 6** for existing LPDES discharge points. No additional LPDES discharge points are proposed.

h. other features, as appropriate.

There are no other features believed to be pertinent to this application.

- 4. The following information is required for Type I and II facilities:
 - a. areas for isolating nonputrescible waste or incinerator ash, and borrow areas; and

All waste processed and disposed at the facility is nonputrescible. No incinerator ash is processed or disposed.

b. location of leachate collection/treatment/removal system.

This facility has been granted an exemption from LAC 33:VII.B.4 regarding leachate control, collection, treatment, and removal requirements. A letter dated January 25, 1999 from LDEQ granting this exemption is included in this application as **Appendix E**.

- C. Facility Surface Hydrology. Standards governing facility surface hydrology are contained in LAC 33:VII.711.A (Type I and II landfills), LAC 33:VII.713.A (Type I and II surface impoundments), LAC 33:VII.715.A (Type I and II landfarms), LAC 33:VII.717.C. (Type I-A and II-A facilities), and LAC 33:VII.719.C (Type III facilities).
 - 1. The following information regarding surface hydrology is required for all facilities:
 - a description of the method to be used to prevent surface drainage through the operating areas of the facility;

The subject surface impoundments are surrounded by dikes having a height of approximately 4 feet above ground surface. The dikes are sufficient height to prevent surface run-on from adjacent areas. As indicated on **Figure 6**, surface drainage is directed to the north, south, and middrainage ditches through LPDES Outfalls 002, 003, and 004. These drainage patterns and the capacity of the ditches are sufficient to prevent flooding and standing of water in the impoundment area. The surface impoundments are inspected on a daily basis for adequate freeboard. Freeboard is noted on the Daily Environmental Checklist.

b. a description of the facility run-off/run-on collection system;

The subject surface impoundments do not have a run-off/run-on collection system. Dikes surrounding the surface impoundments are of sufficient height to prevent surface run-on. To prevent run-off from the surface impoundments, the East and West Ponds are connected with an equalization line located in the northeast corner of the West pond and northwest corner of the East pond. Water discharges the east and west pond system through a concrete weir providing a controlled, measurable flow. Water discharged from the east and west pond system flows through LPDES Outfall 005 to Bayou Bourbeaux. Please see Figure 7 for a sketch of the impoundments depicting the equalization line and discharge weir.

c. the maximum rainfall from a 24-hour/25-year storm event;

The maximum rainfall from a 24-hour/25-year storm event is 12.08 inches.

d. the location of aquifer recharge areas in the site or within 1,000 feet of the site perimeter, along with a description of the measures planned to protect those areas from the adverse impact of operations at the facility; and

Figure 8 shows the location of the aquifer in the area and beneath the site. The facility is not located in or within 1,000 feet of an aquifer recharge zone. No adverse condition resulting from operations are expected to impact the aquifer recharge areas. Measures taken to protect the aquifer recharge areas include the installation of four (4) monitoring wells to monitor the quality of groundwater. All wells drilled at SRCC (including production wells) were installed according to LDOTD guidelines and recommendations.

e. if the facility is located in a flood plain, a plan to ensure that the facility does not restrict the flow of the 100-year base flood or significantly reduce the temporary water-storage capacity of the flood plain, and documentation indicating that the design of the facility is such that the flooding does not affect the integrity of the facility or result in the washout of solid waste.

The facility is not located within a 100-year flood plain. **Figure 2** indicates the subject property is located in an area of minimal flooding on Zone C.

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- D. Facility Geology. Standards governing facility geology are contained in LAC 33:VII.709.C (Type I and II facilities), LAC 33:VII.717.D (Type I-A and II-A facilities), and LAC 33:VII.719.D (Type III facilities).
 - 1. The following information regarding geology is required for Type I and Type II facilities:
 - a. isometric profile and cross-sections of soils, by type, thickness, and permeability;

This permit application is for an existing facility (1969). A subsoil investigation was conducted by Eustis Engineering in 1968 prior to construction of the carbon black plant to determine the feasibility of building weight bearing structures on this particular location. Visual soil classification supported by laboratory testing of soil samples collected to 125 feet below ground surface (bgs) is included in this application as **Appendix F**.

The locations of borings/wells are shown on **Figure 6**. Boring 1 was located to the front of the property near Bayou Bourbeaux. Boring 2 was drilled near the center of the property and Boring 3 was drilled near the rear near the western end of the property at the landfill site. MW-1 through MW-4 are located at the landfill site and MW-5 through MW-8 are located around the impoundments.

In the vicinity of the impoundments, two borings/wells (MW-7 and MW-8) were completed in December 2002 by EcoScience Resource Group (EcoScience) at 30 feet bgs. Borings/wells MW-5 and MW-6 were completed 32 feet bgs by EcoScience in December 2002. Borings B-1 and B-2, installed in March 1968 by Eustis Engineering, were completed to 110 feet bgs and 120 feet bgs, respectively. The spacing between these borings/wells is no greater than 450 feet.

The requirement for three 100-foot borings is not completely satisfied (only two installed). However, the available boring log information present sufficient information to adequately characterize the shallow geology; therefore, an exemption from this standard was requested and approved by LDEQ on July 27, 2005. The exemption approval is included in **Appendix G**.

Appendix H (Figure 1) shows the locations of the soil cross sections. The soil cross sections (A-A' through E-E') are illustrated on Figures 2 through 4 of Appendix G. Figure 5

of Appendix H is an isometric soil profile.

 logs of all known soil borings taken on the facility and a description of the methods used to seal abandoned soil borings;

The soil boring logs are included as **Appendix I**. These include: B-1 through B-3 and MW-1 through MW-8. Boring logs for the two (2) process water wells and one (1) abandoned water well are also included in **Appendix I**.

No documentation is known to exist describing the method used to seal the borings drilled in 1968. During that period, plugging and abandonment were standard practice. Borings for MW-5 through MW-8 were converted to groundwater monitor wells in accordance with "Water Well Rules, Regulations, and Standards, State of Louisiana" as adopted by the Louisiana Department of Transportation and Development, Water Resources Section.

 results of tests for classifying soils (moisture contents, Atterberg limits, gradation, etc.), measuring soil strength, and determining the coefficients of permeability, and other applicable geotechnical tests;

Borings, geotechnical field tests, and laboratory tests were conducted according to the applicable standards of the American Society for Testing and Materials (ASTM) or the Environmental Protection Agency (EPA).

The geotechnical testing programs included natural moisture content determinations, Atterberg limits determinations, density determinations, permeability, and unconfined compression tests. The available test results for borings B-1 through B-3 and for MW-6 are included in **Appendix J**.

Near surface soils consist of medium stiff to stiff tan and gray clay and silty clay which continue to depths varying from approximately 12 to 21 feet bgs. Underlying this, medium stiff gray clay continues to depths varying from approximately 22 to 26 feet bgs. From approximately 22 to 26 feet there are strata of soft to medium stiff gray clay that continue to depths varying from approximately 56 to 57 feet bgs. At these depths, soft to medium stiff gray clay and sitly clay were encountered and continued to depths varying from approximately 89 to 94 feet.

d. geologic cross-section from available published information depicting the stratigraphy to a depth of at least 200 feet below the ground surface;

Reference Figures 1 and 2 in Appendix K for a description of stratigraphy to a depth of over 200 feet bgs at the facility. Based on soil borings, soft to medium stiff clay underlie the site to depths of approximately 100 feet followed by denser sands.

e. for faults mapped as existing through the facility, verification of their presence by geophysical mapping or stratigraphic correlation of boring logs. If the plane of the fault is verified within the facility's boundaries, a discussion of measures that will be taken to mitigate adverse effects on the facility and the environment;

As indicated on **Figure 9**, no faulting exists within the facility boundaries; therefore, LAC 33:VII.521.D.i.e is not applicable.

f. for a facility located in a seismic impact zone, a report with calculations demonstrating that the facility will be designed and operated so that it can withstand the stresses caused by the maximum ground motion, as provided in LAC 33:VII.709.C.2; and

Not Applicable. The facility is not located in a seismic impact zone.

g. for a facility located in an unstable area, a demonstration of facility design as provided in LAC 33:VII.709.C.3.

Not Applicable. The facility is not located in an unstable area.

- 2. The following information regarding geology is required by Type III woodwaste, and construction/demolition-debris facilities:
 - a. general description of the soils provided by a qualified professional (a geotechnical engineer, soil scientist, or geologist) along with a description of the method used to determine soil characteristics; and
 - Logs of all known soil borings taken on the facility and a description of the methods used to seal abandoned soil borings.

The impoundments are not a Type III woodwaste and construction/demolition-debris facility. Therefore, the above citation is not applicable.

- E. Facility Subsurface Hydrology. Standards governing facility subsurface hydrology are contained in LAC 33:VII.715.A (Type I and II landfarms).
 - 1. The following information on subsurface hydrology is required for all Type I facilities and Type II landfills and surface impoundments:
 - a. delineation of the following information for the water table and all permeable zones from the ground surface to a depth of at least 30 feet below the base of excavation:
 - i. areal extent beneath the facility;

The cross sections and isometric profile (**Appendix** H) indicate the uppermost water-bearing zone consists of the clayey silt and/or silty clay layer(s) beneath the entire impoundments area. Due to the presence of silt pockets and lenses, the upper approximate 18 feet is considered one shallow groundwater zone with hydraulic connectivity.

ii. thickness and depth of the permeable zones and fluctuations;

The uppermost water-bearing zone is typically present between 13 and 18 feet bgs (5 feet thick). However, due to the presence of silt pockets and lenses, the upper approximate 18 feet is considered one shallow groundwater zone with hydraulic connectivity. In fact, during the period of well installations (MW-5 through MW-8) in December 2002, rainy weather conditions were present and the first groundwater surface was elevated during this measuring event (encountered at about 7 feet bgs).

iii. direction(s) and rate(s) of groundwater flow based on information obtained from piezometers and shown on potentiometric maps; and

A potentiometric map for the uppermost water-bearing zone is presented as **Figure 10** (Potentiometric Map – April 9, 2003) for the April 9, 2003 gauging event. As shown on this figure, groundwater flow is radially away from the impoundments and steepest to the south (gradient of 0.006 ft/ft).

On June 3, 2004, aquifer slug tests were performed in wells MW-5 through MW-8 to determine the hydraulic conductivity. The results of these tests are summarized in **Appendix L**. Using Darcy's Law, the horizontal rate of groundwater flow is calculated to be about 12 ft/year. The parameters used in Darcy's equation (v = ki/n) include: hydraulic conductivity, k (1.11 ft/day as determined from aquifer tests); hydraulic gradient, i (0.006 ft/ft as determined graphically from the potentiometric map; and porosity, n (conservatively assigned 0.2 for the soil type).

Groundwater elevations will be measured quarterly for one year in wells MW-5 through MW-8 (screened in the uppermost water bearing zone) for determining/confirming groundwater flow direction and rate. Water elevations in the East and West Impoundments will also be determined for each of the quarterly gauging events. This information will be forwarded to the LDEQ.

iv. any change in groundwater flow direction anticipated to result from any facility activities.

It is anticipated that future activities at the site will have no impact on groundwater flow directions.

- b. delineation of the following, from all available information, for all recognized aquifers which have their upper surfaces within 200 feet of the ground surface:
 - i. areal extent;

Referring to Figures 1 and 2 in Appendix K, fresh water sands begin at 95 feet bgs and extend to 400 feet bgs. These sands are present beneath the entire site.

ii. thickness and depth to the upper surface;

The thickness of the fresh water sands below the site is approximately 300 feet with the upper surface of the sand being located approximately 100 feet below the surface.

iii. any interconnection of aquifers; and

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There is no interconnection of aquifers below the site.

iv. direction(s) and rate(s) of groundwater flow shown on potentiometric maps.

Direction of groundwater flow in these sands is away from the Mississippi River (to the southwest) at high river stage and toward the Mississippi River (to the northeast) at low river stage.

- 2. The following information on subsurface hydrology is required for Type II landfarms. Delineation of the following information for the water table and all permeable zones from the ground surface to a depth of at least 30 feet below the zone of incorporation:
 - a. aereal extent beneath the facility;
 - b. thickness and depth of the permeable zones and fluctuations;
 - c. direction(s) and rate(s) of groundwater flow based on information obtained from piezometers and shown on potentiometric maps; and
 - d. any change in groundwater flow direction anticipated to result from any facilities activities.

The impoundments are not a Type II landfarm. Therefore, this citation is not applicable.

- F. Facility Plans and Specifications. Standards governing facility plans and specifications are contained in LAC 33:VII.711.B (Type I and II landfills), LAC 33:VII.713.B (Type I and II surface impoundments), LAC 33:VII.715.B (Type I and II landfarms), LAC 33:717.E (Type I-A and II-A facilities), LAC 33:VII.721.A (Type III construction and demolition debris and woodwaste landfills), LAC 33:VII.723.A (Type III composting facilities), and LAC 33:VII.725.A (Type III separation facilities). Standards for groundwater monitoring are contained in LAC 33:VII.709.E (Type I and II facilities).
 - 1. Certification-The person who prepared the permit application must provide the following certification:

"I certify under penalty of law that I have personally examined and I am familiar with the information submitted in this permit application and that the facility as described in this permit application meets the requirements of the Solid Waste Rules and Regulations. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment."

Name: Herb Harless Title: Director of Safety & Environmental

Signature Les Haules para Date: 9-15-05

- 2. The following information on plans and specifications is required for Type I and II facilities:
 - detailed plan-view drawing(s) showing original contours, proposed elevations of the base of units prior to installation of the liner system, and boring locations;

Sid Richardson has requested and received an exemption from LAC 33:VII.713.3 liner requirements. A copy of the letter from LDEQ granting this exemption is located in **Appendix M**.

b. detailed drawings of slopes, levees, and other pertinent features; and

A detailed sketch of the east and west surface impoundments is located in this application as Figure 7.

c. the type of material and its source for levee construction. Calculations shall be submitted

demonstrating that an adequate volume of material is available for the required levee construction.

Material excavated to form the surface impoundments was used to construct the levee surrounding the impoundments. Calculation demonstration that an adequate volume of material is available for the required levee construction is not required. This application is for an existing facility, the levees have been successfully constructed.

- 3. The following information on plans and specifications is required for Type I, II, and III landfills:
 - a. approximate dimensions of daily fill and cover; and
 - b. the type of cover material and its source for daily, interim, and final cover. Calculations shall be submitted demonstrating that an adequate volume of material is available for daily, interim, and final cover.

Not Applicable. This application is for a surface impoundment.

- 4. The following information on plans and specifications for the prevention of groundwater contamination must be submitted for Type I and II facilities:
 - a. representative cross-sections and geologic crosssections showing original and final grades, approximate dimensions of daily fill and cover, drainage, the water table, groundwater conditions, the location and type of liner, and other pertinent information;

Refer to Appendix F and Figure 7 for original and final grades of the subject surface impoundment. Approximate dimensions of daily fill and cover are not applicable as this application is for a surface impoundment. Surface drainage is away from the surface impoundment. Groundwater information will be collected during the subsurface soil investigation to depth of 30 feet below the base of the surface impoundments. Sid Richardson has received an exemption from the surface impoundment liner requirements. The letter from LDEQ granting this exemption is located in Appendix E.

Four (4) monitor wells (MW-5 through MW-8) screened in the uppermost water-bearing zone were installed in December 2002. As shown on **Figure 1** in **Appendix H**, they are located adjacent to the perimeter levee of the impoundments (as close as practicable to the impoundments). A groundwater sampling and analysis plan (SAP) utilizing these wells is presented as **Appendix M**.

 a description of the liner system, which shall include: calculations of anticipated leachate volumes, rationale for particular designs of such systems, and drawings; and

LAC 33:VII.521.F.4.b and c are not applicable. Sid Richardson has been granted an exemption from liner/leachate collection removal systems. The letter from LDEQ granting the exemption is located in this application as **Appendix E.**

 a description of the leachate collection and removal system, which shall include calculations of anticipated leachate volumes, rationale for particular designs of such systems, and drawings.

LAC 33:VII.521.F.4.b and c are not applicable. Sid Richardson has been granted an exemption from liner/leachate collection removal systems. The letter from LDEQ granting them exemption is located in this application as **Appendix E.**

- 5. The following information on plans and specifications for groundwater monitoring must be provided for Type I and II facilities:
 - a. a minimum of three piezometers or monitoring wells in the same zone must be provided in order to determine groundwater flow direction;

In December 2002, four (4) monitor wells (MW-5 through MW-8) screened in the uppermost water-bearing zone were installed in the vicinity of the impoundments. The locations of these wells are shown on **Figure 6**. These wells serve as the monitoring network for the impoundments.

The monitor well cross sections for MW-5 through MW-8 are included as **Appendix N** and summarized on **Table 1**. As noted on this table, the ground elevations and top-of-casing elevations for the wells are based on an elevation survey conducted on March 17-19, 2003 by General Engineering and Environmental Co. of Baton Rouge, Louisiana. As shown on these cross section diagrams, the wells are constructed of 4-

inch diameter schedule 40 PVC pipe. Each well includes a 10-foot screened interval constructed of 4-inch diameter schedule 40 PVC with a slot size of 0.010 inches. The LDOTD well registration documentation is provided in **Appendix O**.

The placement and construction of these wells were selected to detect contamination from the facility. Therefore, the wells were placed as close to the impoundments as practicable (adjacent to the perimeter levee of the impoundments) and screened in the stratum most likely to be affected by contaminant migration. Monitor well MW-8 is located farthest from the impoundments at approximately 120 feet south of the impoundments. However, the well is placed as close as practicable to the impoundments based on the following considerations (see **Figure 6**): underground pipeline; berm stability; and area of potential future expansion.

The four existing wells are screened at appropriate depths to capture and monitor groundwater from the uppermost permeable zone. Due to the presence of silt pockets and lenses, the upper approximate 18 feet is considered one shallow groundwater zone with hydraulic connectivity. The screening intervals for the wells are between 10 to 20 feet bgs at wells MW-5 and MW-6, and similarly between 9 to 19 feet bgs at wells MW-7 and MW-8. Also, the sand filter pack for the wells extends two feet above the top of the screen depths. Therefore, the wells are capturing groundwater from depths as shallow as 8 feet in wells MW-5 and MW-6 and 7 feet in wells MW-7 and MW-8.

Sid Richardson will operate and maintain these wells so that they perform to design specifications throughout the life of the monitoring program.

b. for groundwater monitoring wells, cross-sections illustrating construction of wells, a scaled map indicating well locations and the relevant point of compliance, and pertinent data on each well, presented in tabular form, including drilled depth, the depth to which the well is cased, screen interval, slot size, elevations of the top and bottom of the screen, casing size, type of grout, ground surface elevation, etc.;

Cross-sections illustrating well construction details and pertinent data on each well, presented in tabular form, including drilled depth, the depth to which the monitoring well is cased, screen interval, slot size, elevations of the top and bottom of the screen, casing size, ground surface elevation, etc., are included as **Appendix N and Table 1**.

The relevant point of compliance in the uppermost water bearing-zone is shown on **Figure 6**. This compliance point is the vertical surface of the impoundments' exterior boundaries and extends down into the uppermost water bearing-zone. Wells MW-5 through MW-8 yield groundwater samples from the uppermost water bearing-zone that represents the quality of groundwater passing the relevant point of compliance.

These compliance points are located on property owned and controlled by Sid Richardson and are shown on Figure 6. These compliance points were selected based on the required factors as detailed in LAC 33:VII.709.E.1.a.

Each of the wells is vented to the atmosphere and sealed with concrete to prevent surface contamination. The wells are screened and located to insure that only one water-bearing unit is sampled per well. Each well is protected by a steel casing and locked to prevent tampering.

All wells have protective casings with locking covers and a secure locking device in place, guard posts firmly anchored outside the well slab, but not in contact with the slab, a screen length not more than 10 feet. In addition, these wells allow at least 3 inches between the well casing and the borehole wall.

Each well has a plate permanently affixed to each well's protective casing to prominently display each well's identification number, elevation of top of well casing in relation to mean sea level or equivalent, screen depth in relation to mean sea level or equivalent, and date of well installation. Information regarding well repairs is maintained by the site groundwater contact person.

Sid Richardson will obtain approval from LDEQ prior to the construction of any future monitor wells associated with the facility. Within 90 days after construction of any monitor well associated with the facility, Sid Richardson will submit well-completion details to verify that the wells were constructed according to the approved specifications and to document construction procedures. The well-completion details will include daily field notes documenting construction procedures and any unusual occurrences such as grout loss, etc.; the boring log for each well including surface elevation(s) with respect to mean sea level; and as-built diagrams for each well showing all pertinent features such as elevation of reference point for measuring groundwater levels, screen interval, and ground surface. If features

change from the LDEQ approved plans, then a permit modification request will be submitted in accordance with LAC 33:VII.517.

 a groundwater monitoring program including a sampling and analysis plan that includes consistent sampling and analysis procedures that ensure that monitoring results provide reliable indications of groundwater quality;

The Groundwater Sampling and Analysis Plan (Appendix M) includes consistent sampling and analysis procedures that ensure that monitoring results provide reliable indications of groundwater at the well locations. The monitoring constituents listed in the Groundwater Sampling and Analysis Plan in Appendix M are appropriate indicator parameters based on knowledge of the plant processes and results of analytical testing of sludge collected from the impoundments on January 31, 2005. The sludge sample was composited from locations shown on Figure 11. A complete analysis (volatiles, semi-volatiles, metals, oil and grease, total organic carbon, and pH) was performed on the sludge sample, and the results are included as Appendix P. As shown on these results in this appendix, volatiles and semi-volatiles were not detected, the pH was neutral, and all metals were below Risk Evaluation/Corrective Action Plan (RECAP) soil screening standards.

d. for an existing facility, all data on samples taken from monitoring wells in place at the time of the permit application must be included. (If this data exists in the Solid Waste Division records, the administrative authority may allow references to the data in the permit application.) For an existing facility with no wells, groundwater data shall be submitted within 90 days after the installation of monitoring wells. For a new facility, groundwater data (one sampling event) shall be submitted before waste is accepted;

Sid Richardson will complete an initial sampling event of monitor wells MW-5 through MW-8. The initial sampling event will be a minimum of four (4) independent samples collected for each parameter. These samples will be collected quarterly over a period of one (1) year in order to reflect seasonal variations in groundwater quality. The fact is noted that some statistical methods require more than four (4) independent samples for the method to be valid.

e. a plan for detecting, reporting, and verifying changes in groundwater; and

The Groundwater Sampling and Analysis Plan, which includes procedures for detecting, reporting, and verifying changes in groundwater, is included as **Appendix M**.

Sid Richardson will submit statistical method(s) to the LDEQ as a permit modification within 90 days after completion of the initial sampling event. This permit modification will include the data collected from the initial sampling event, the proposed statistical method chosen for each parameter and justification for choosing the proposed statistical method(s). This justification will provide verification of the underlying statistical assumptions and demonstrate that the statistical method chosen for each individual parameter is the most appropriate method based on the analytical data-set that was generated from the initial sampling event.

Sid Richardson will conduct an assessment monitoring program at the facility when significant increases are determined, according to LAC 33:VII.709.E.3.f.i-iv, for one or more of the parameters or constituents sampled and analyzed during the detection monitoring program. The assessment monitoring parameters or constituents will consist of the detection monitoring parameters or constituents.

Within 90 days after triggering an assessment monitoring program, Sid Richardson will sample and analyze the groundwater at all wells for all the assessment monitoring parameters or constituents.

If after triggering an assessment monitoring program and assessment monitoring parameters or constituents are detected at concentrations significantly different from background in the re-sampling event, Sid Richardson will, within 14 days of the determination, submit a report to LDEQ identifying the assessment monitoring parameters or constituents which are statistically different from background concentrations. Sid Richardson will also notify all persons who own land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off site as indicated by the sampling of the wells according to LAC 33:VII.709.E.8.c.i.

Sid Richardson will, upon consultation with and approval of LDEQ, implement any interim measures necessary to ensure the protection of human health and the environment. The interim measures will, to the greatest extent practicable, be consistent with the objectives of and contribute to the

performance of any remedy that may be required pursuant to LAC 33:VII.709.E.6.

Sid Richardson will consider the following factors in determining whether interim measures are necessary: time required to develop and implement a final remedy; actual or potential exposure of nearby populations or environmental receptors to hazardous parameters or constituents; actual or potential contamination of drinking water supplies or sensitive ecosystems; further degradation of the groundwater that may occur if remedial action is not initiated expeditiously; weather conditions that may cause hazardous parameters or constituents to migrate or be released; risks of fire or explosion, or potential for exposure to hazardous parameters or constituents as a result of an accident or failure of a container or handling system; and other situations that may pose threats to human health and the environment.

If a corrective-action plan is deemed necessary, Sid Richardson will perform corrective action at the facility in accordance with LAC 33:VII.709.E.9.

Sid Richardson will, within 270 days after the submittal of the assessment plan, submit to LDEQ four bound copies (8½ by 11 inches) of a corrective-action plan to remediate the groundwater. The corrective-action plan will describe the selected remedy and will also include a corrective-action groundwater monitoring program, which meets the requirements of an assessment monitoring program outlined in LAC 33:VII.709.E.8, which indicates the effectiveness of the corrective-action remedy. In addition, the corrective-action plan will include a schedule for initiating and completing remedial activities.

After a corrective-action plan submitted by Sid Richardson has been approved by LDEQ based on the schedule for initiating and completing remedial activities, the facility will implement a corrective-action program to remediate the groundwater.

Sid Richardson will, upon completion of the remedy associated with a corrective-action plan, submit within 14 days to LDEQ a certification that the remedy has been completed in compliance with the requirements of LAC 33:VII.709.E.7.h. The certification will be signed by the responsible party representing the facility and submitted to LDEQ for approval.

f. the method for plugging and abandonment of groundwater monitoring systems.

As mandated by LAC 33:VII.709.E.1.e, Sid Richardson will comply with "Water Well Rules and Regulations, State of Louisiana" (LAC 70:XIII), as adopted by the Louisiana Department of Transportation and Development, Water Resources Section, for all plugging and abandonment of wells and holes including observation wells, monitor wells, piezometer wells, leak detection wells, assessment wells, recovery wells, abandoned pilot holes, test holes, and geotechnical boreholes. The general procedures for plugging and abandonment of monitoring wells are presented in the Groundwater Sampling and Analysis Plan (Appendix M).

6. The facility plans and specifications for Type I and II landfills and surface impoundments (surface impoundments with onsite closure and a potential to produce gases) must provide a gas collection and treatment or removal system.

LAC 33:VII.521.F.6 does not apply. The subject waste is carbon black. Carbon black will not decompose and will not produce gases. Refer to **Appendix Q**.

- G. Facility Administrative Procedures. Standards governing facility administrative procedures are contained in LAC 33:VII.711.C (Type I and II landfills), LAC 33:VII.713.C (Type I and II surface impoundments), LAC 33:VII.715.C (Type I and II landfarms), LAC 33:VII.717.F (Type I-A and II-A facilities), LAC 33:VII.721.B (Type III construction and demolition debris and woodwaste landfills), LAC 33:VII.723.B (Type III composting facilities), and LAC 33:VII.725.B (Type III separation facilities).
 - 1. The following information on administrative procedures is required for all facilities:
 - recordkeeping system; types of records to be kept; and the use of records by management to control operations;

To fulfill LDEQ Solid Waste Generator and Disposer requirements, a log is kept of all carbon black removed from the east and west surface impoundments during routine maintenance operations. The amount of carbon black removed and averaged over the time of accumulation represents an accurate volume of carbon black disposed in the surface impoundment. Records from the most recent removal operation indicated 500 cubic yards of carbon black are disposed in the east and west surface impoundments on an annual basis. Sid Richardson will submit annual reports to the department as per the requirements of §713.C.1.a.i-v. Sid Richardson will comply with the record keeping requirements in §713.C.1.b and §521.G.1.a. Sid Richardson has developed and maintains on site a Regulatory Compliance Manual and a set of Historical Records Manual which contain all records necessary to comply with §713.C.1.b.

Records kept on site shall include but not limited to:

- 1. Copy of the current Solid Waste Rules and Regulations
- 2. The permit
- 3. Copy of the Solid Waste Permit Application and any Solid Waste Permit Modifications
- 4. Certified field notes for construction
- 5. Operator training programs

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Daily log

- 7. Quality assurance/quality control records
- 8. Inspections by the permit holder or operator
- 9. Monitoring, testing, or analytical data
- 10. Any other applicable or required data deemed necessary by the administrative authority
- 11. Records on groundwater sampling results
- 12. Post-closure monitoring reports
- 13. Copies of all documents received from or submitted to the LDEQ Solid Waste Division
- b. an estimate of the minimum personnel, listed by general job classification, required to operate the facility; and

The facility operates with minimal personnel. At a minimum the following personnel are required to operate the facility:

- Environmental Health and Safety Coordinator
- Facility Operator
- maximum days of operation per week and per facility operating day (maximum hours of operation within a 24hour period).

The carbon black facility along with the east and west surface impoundments are operated 24 hours per day, seven days a week.

2. Administrative procedures for Type II facilities shall include the number of facility operators certified by the Louisiana Solid Waste Operator Certification and Training Program (R.S. 37:3151 et seq.).

Not Applicable. This application is for a Type I surface impoundment.

- H. Facility Operational Plans. Standards governing facility operational plans are contained in LAC 33:VII.711.D (Type I and II landfills), LAC 33:VII.713.D (Type I and II surface impoundments), LAC 33:VII.715.D (Type I and II landfarms), LAC 33:VII.717.G (Type I-A and II-A facilities), LAC 33:VII.721.C (Type III construction and demolition debris and woodwaste landfills), LAC 33:VII.723.C (Type III composting facilities), and LAC 33:VII.725.C (Type III separation facilities).
 - 1. The following information on operational plans is required for all facilities:
 - a. types of waste (including chemical, physical, and biological characteristics of industrial wastes generated on-site), maximum quantities of wastes per year, and sources of waste to be processed or disposed of at the facility;

Only one type of waste is generated on site for disposal in the east and west surface impoundments, carbon black suspended in rain water and wash water.

Chemical, physical, and biological characteristics of carbon black are listed in **Appendix Q**.

Based on historical documentation, the maximum quantity of waste disposed in the surface impoundments is 500 yd³/year.

The source of the waste disposed in the east and west surface impoundments is residue left over from the cleanup of small spills. During the manufacture of carbon black, inadvertent spills occur from time to time. Spills are cleaned up by dry cleaning methods such as sweeping or vacuuming, but traces of the black remain and are picked up by rain water or wash down water that is collected by drainage ditches and drained to a sump from which it is pumped to the ponds.

It should be pointed out that soaps or commercial cleaners are not used in the wash down procedures.

 waste-handling procedures from entry to final disposition, which could include shipment of recovered materials to a user:

Carbon black suspended in rain water and wash water is pumped from sumps to the west surface impoundments via an eight (8) inch underground pipeline. The majority of carbon black suspended in the water settles out in the west impoundment. Overflow from the west pond flows to the east pond via a twelve (12) inch equalization line. Any residual carbon black remaining in the water settles out in the east impoundment. It is necessary to dredge the accumulated carbon

black from the impoundment once every five (5) years. Carbon black dredged from the surface impoundments is disposed offsite in a permitted landfill.

c. minimum equipment to be furnished at the facility;

Sump pumps are the only equipment necessary for the operation of the surface impoundments. The sump pumps are located within the plant, inspected on a daily basis and kept in operating order.

d. plan to segregate wastes, if applicable;

Not Applicable. The facility is a surface impoundment.

e. procedures planned in case of breakdowns, inclement weather, and other abnormal conditions (including detailed plans for wet-weather access and operations);

Sid Richardson has developed an Emergency Action Plan to be followed in the event of an emergency. This plan is located in this application as **Appendix R**. In the case of breakdowns, the facility has maintenance personnel on duty 24 hours a day/7days a week.

f. procedures, equipment, and contingency plans for protecting employees and the general public from accidents, fires, explosions, etc., and provisions for emergency care should an accident occur (including proximity to a hospital, fire and emergency services, and training programs); and

The waste disposed in the subject surface impoundment is nontoxic, nonflammable and non-explosive. The facility is located approximately 2.5 miles from hospitals, fire and emergency services. Employee-Right-To-Know training is conducted on an annual basis informing employees of proper carbon black handling procedures, how to read an MSDS, and any hazards associated with carbon black.

g. provisions for controlling vectors, dust, litter, and odors.

Carbon black disposed in the subject surface impoundment is suspended in water; therefore dusting is not an issue. Carbon black also does not produce any odors. The facility is surrounded by fencing, providing vector and liter control.

- 2. The following information on operational plans is required for Type I and II facilities:
 - a. a comprehensive operational plan describing the total operation, including (but not limited to) inspection of incoming waste to ensure that only permitted wastes are accepted (Type II landfills must provide a plan for random inspection of incoming waste loads to ensure that hazardous wastes or regulated PCB wastes are not disposed of in the facility.); traffic control; support facilities; equipment operation; personnel involvement; and day-to-day activities. A quality- assurance/quality-control [QA/QC] plan shall be provided for facilities receiving industrial waste; domestic-sewage sludge; incinerator ash; friable asbestos; non-hazardous petroleum- contaminated media; and debris generated from underground storage tanks [UST], corrective action, or other special wastes as determined by the administrative authority. The QA/QC plan shall include (but shall not be limited to) the necessary methodologies; analytical personnel; pre-acceptance and delivery restrictions; and appropriate responsibilities of the generator, transporter, processor, and disposer. The QA/QC plan shall ensure that only permitted, nonhazardous wastes are accepted:

Only one waste is disposed at the east and west surface impoundments. The waste consists primarily of carbon black contaminated with small amounts of dirt, sand and soils. The solid waste is generated from rainwater runoff from the production area and the periodic maintenance activity of washing down the production area and cleaning of residue resulting from small spills. No soaps or commercial detergents are used in the wash down process. Run-off from the process area, which contains the suspended carbon black, collects in a sump located near the southeast corner of the process area. From the sump, the water is pumped to the West Pond where the majority of the suspended carbon black settles out. Water from the West Pond flows to the East Pond is through a an equalization line connecting the two ponds at the northeast corner of the West Pond. Any remaining suspended carbon black settles out in the East Pond. Water discharges from the East Pond via a LDEQ LPDES Permitted Outfall 005. To ensure only carbon black is disposed in the surface impoundments, ditches, drain lines, and the sump are inspected on a daily basis. Any irregularities are noted on a checklist and reported to the acting supervisor for correction. An example of this Daily Environmental Checklist is located in Appendix S.

Hazardous waste or any other waste that prevents special handling or disposal problems will not be allowed to be disposed in the surface impoundments. Nonhazardous petroleum contaminated media and debris generated by UST corrective action are prohibited. Incinerator ash will not be disposed at this facility.

There is no gas-monitoring system at this facility. The waste does not have the propensity to produce gas. Therefore, there is no sampling protocol, chain of custody, and test methods that will be used in the gas-monitoring systems.

A comprehensive operational plan, which describes the total operation of the impoundments, the waste inspection and testing procedures, personnel monitoring activities, equipment operation, and a QA/QC Plan for waste monitoring, sampling, and analysis is presented in **Appendix T**.

b. salvaging procedures and control, if applicable; and

Not Applicable. The subject surface impoundment does not contain any salvageable material.

c. scavenging control.

Not Applicable. As stated in LAC 33.VII.521.H.2.b, the subject was not salvageable, therefore scavenging is not an issue.

3. The following information on operational plans is required for Type I and II landfarms:

a. items to be submitted regardless of land use:

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- i. a detailed analysis of waste, including (but not limited to) pH, phosphorus, nitrogen, potassium, sodium, calcium, magnesium, sodium-adsorption ratio, and total metals (as listed in LAC 33:VII.715.D.3.b);
- ii. soil classification, cation-exchange capacity, organic matter, content in soil, soil pH, nitrogen, phosphorus, metals (as listed in LAC 33:VII.715.D.3.b), salts, sodium, calcium, magnesium, sodium-adsorption ratio, and PCB concentrations of the treatment zone;
- iii. annual application rate (dry tons per acre) and weekly hydraulic loading (inches per acre); and

- iv. an evaluation of the potential for nitrogen to enter the groundwater.
- b. items to be submitted in order for landfarms to be used for food-chain cropland:
 - i. a description of the pathogen-reduction method for septage, domestic sewage sludges, and other sludges subject to pathogen production;
 - ii. crops to be grown and the dates for planting;
 - iii. PCB concentration in waste;
 - iv. annual application rates of cadmium and PCBs; and
 - v. cumulative applications of cadmium and PCBs;
- c. items to be submitted for landfarms to be used for nonfoodchain purposes:
 - i. description of the pathogen-reduction method in septage, domestic sewage sludges, and other sludges subject to pathogen production; and
 - ii. description of control of public and livestock access.

LAC 33.VII.521.H.3.a-c is not applicable. The facility is a Type I surface impoundment.

- 4. The following information on operational plans is required for Type I-A and II-A incinerator waste-handling facilities and refusederived energy facilities:
 - a description of the method used to handle process waters and other water discharges which are subject to LPDES permit and state water discharge permit requirements and regulations; and
 - b. a plan for the disposal and periodic testing of ash (all ash and residue must be disposed of in a permitted facility).

LAC 33.VII.521.H.4.a-b is not applicable. The facility is a Type I surface impoundment.

- 5. The following information on operational plans is required for Type I-A and II-A refuse-derived fuel facilities and Type III separation and composting facilities:
 - a. a description of the testing to be performed on the fuel or compost, and
 - b. a description of the uses for and the types of fuel/compost to be produced.

LAC 33.VII.521.H.5.a-b is not applicable. The facility is a Type I surface impoundment.

6. The operational plans for Type I-A and II-A refuse-derived fuel facilities and Type III separation and composting facilities must include a description of marketing procedures and control.

LAC 33.VII.521.H.6 is not applicable. The facility is a Type I surface impoundment.

7. The operational plans for Type I and II facilities receiving waste with a potential to produce gases must include a comprehensive air monitoring plan.

Not Applicable. The surface impoundment does not receive waste capable of producing gas.

- I. Implementation Plan. Standards governing implementation plans are contained in LAC 33:VII.709.D (Type I and II facilities), LAC 33:VII.717.H (Type I-A and II-A facilities), and LAC 33:VII.719.E (Type III facilities).
 - 1. The implementation plans for all facilities must include the following:
 - a. a construction schedule for existing facilities which shall include beginning and ending time-frames and time-frames for the installation of all major features such as monitoring wells and liners. (Time-frames must be specified in days, with day one being the date of standard permit issuance); and
 - b. details on phased implementation if any proposed facility is to be constructed in phases.

Not Applicable. This application is for an existing facility.

2. The implementation plans for Type I and II facilities must include a plan for closing and upgrading existing operating areas if the application is for expansion of a facility or construction of a replacement facility.

Not Applicable. This application is not for the expansion of a facility or construction of a replacement facility.

- J. Facility Closure. Standards governing facility closure are contained in LAC 33:VII.711.E (Type I and II landfills), LAC 33:VII.713.E (Type I and II surface impoundments), LAC 33:VII.715.E (Type I and II landfarms), LAC 33:VII.717.I (Type I-A and II-A facilities), LAC 33:VII.721.D (construction and demolition debris and woodwaste landfills), LAC 33:VII.723.D (Type III composting facilities), and LAC 33:VII.725.D (Type III separation facilities)
 - 1. The closure plan for all facilities must include the following:
 - a. the date of final closure;

It is anticipated that the facility can serve its intended purpose for the entire life of the plant. Sid Richardson will notify the LDEQ in writing at least 90 days prior to beginning closure. At that time, the date of planned closure and closure schedule, estimated cost and any changes in the approved closure plan would be submitted to the administrative authority. Should the site require closure prior to the above date, a permit modification will be submitted in accordance with LAC 33:VII.517.A et sequitur.

b. the method to be used and steps necessary for closing the facility; and

In accordance with the regulations contained in LAC 33:VII.713.E, at least 90 days prior to closure of the facility, Sid Richardson will give written notice to the LDEQ regarding its intent to close the facility. The notice will include the following information:

- Date of planned closure
- Changes, if any, requested in the approved closure plan
- Closure schedule and estimated cost
- Certification that closure is to be performed in accordance with the plan included in the permit application and approved by the LDEQ

A request for the release of the closure fund will not be necessary since Sid Richardson is self-insured.

The surface impoundments will be closed in accordance with the requirements of the Louisiana Solid Waste Rules and Regulations. The impoundments will be closed in accordance with LAC 33:VII.713.E.4 of the regulations. The facility will be closed in accordance with LAC 33:VII.713.E.4 of the solid waste regulations. Sid Richardson will demonstrate that removal of the waste (or most of the waste) to achieve an alternate level of contaminants based on indicator parameters in the contaminated soil will be adequately protective of human health and the environment (including

groundwater) in accordance with LAC 33:I.Chapter 13.

The closure methodology will be as follows:

- All free water will be discharged through a permitted outfall.
- Bottom sediments will be removed and dewatered or solidified for off-site disposal at a permitted solid waste disposal facility. If sediments are dewatered, the free water will be discharged through a permitted outfall if it meets the applicable permit limits, or disposed off site. A suitable solidification agent, such as fly ash, would be used for solidification to pass the paint filter test or other requirements by the off-site disposal facility.
- If bottom sediments are removed, any visibly contaminated underlying soils will be removed for off-site disposal.
- The visibly clean underlying soil will then be sampled and analyzed for constituents of concern that were present in the wastewater and pond sediments.
- The ponds will be considered clean if a risk assessment using the LDEQ protocols shows that remaining constituents will not then or later pose a threat to human health and the environment.
- After it has been shown that the ponds are clean, they will be back-filled, and the area will be restored.

The runoff-diversion system will be maintained or modified as necessary to prevent overflow of the facility to adjoining areas.

The facility does not have the potential for gas production or migration therefore a gas collection and treatment or removal system is not necessary.

Based on knowledge of the plant processes and results of recent analytical testing (January 31, 2005) of sludge collected from the impoundments (**Appendix P**), the parameters listed on **Table 2** of the Sampling and Analysis Plan included herein as **Appendix M**. The sludge sample was analyzed for volatiles, semi-volatiles, metals, oil and grease, and pH. Volatiles and semi-volatiles were not detected. The pH result was neutral and all metals were below RECAP soil screening standards. Total Organic Carbon, oil and grease constituents were elevated.

Prior to implementing any closure activities, Sid Richardson will notify the LDEQ and submit a detailed closure plan with construction drawings and specifications for review and approval by the LDEQ Permits Division. Sid Richardson will close the facility in accordance with the approved plan.

The LDEQ will be provided with a certification of closure signed by a licensed engineer.

c. the estimated cost of closure of the facility, based on the cost of hiring a third party to close the facility at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive.

The estimated cost of closure is:

Sampling and Analysis	\$ 2,500
Earthwork (hauling, compaction, etc.)	\$87,000
Surveying (final plat, sections, etc.)	\$ 8,500
Engineering (certification, etc.)	\$ 9,500
Revegetation/erosion control	\$ 5,500
Miscellaneous	\$ 4,000
TOTAL	\$117,000

A detail closure cost estimate is included as Table 2.

- 2. The closure plan for Type I and II landfills and surface impoundments must include:
 - a. a description of the final cover and the methods and procedures used to install the cover;

Not Applicable. All solid waste will be removed from the subject surface impoundments.

b. an estimate of the largest area of the facility ever requiring a final cover at any time during the active life;

Not Applicable. Cover was not required during the active life of the surface impoundments.

c. an estimate of the minimum inventory of solid waste ever onsite over the active life of the facility; and;

Accumulated solid waste is removed from the subject surface once every five years. From historical record, 2,500 cubic yards of carbon black is the maximum amount of solid waste on the site at

any one time.

d. a schedule for completing all activities necessary for closure.

90 days prior to closure of the surface impoundments, a notice of intent (NOI) to close will be submitted to LDEQ. Removal of storm water, removal and disposal of accumulated solids, soil testing and restoration of original site contours will require an additional 90 days.

- 3. The closure plan for all Type I and II facilities and Type III woodwaste and construction/demolition debris facilities shall include the following:
 - a. the sequence of final closure of each unit of the facility, as applicable;
 - Submit NOI to close
 - Remove storm water/ wash water
 - · Remove and dispose accumulated solid waste
 - Restore original contours
 - a drawing showing final contours of the facility; and
 Final contours will be the same as the original contours represented in Figure 6.
 - c. a copy of the document that will be filed upon closure of the facility with the official parish recordkeeper indicating the location and use of the property for solid waste disposal, unless the closure plan specifies a clean closure.

Not Applicable. The closure plan for the subject surface impoundments specifies clean closure.

- K. Facility Post-closure. Standards governing post-closure requirements are contained in LAC 33:VII.711.F (Type I and II landfills), LAC 33:VII.713.F (Type I and II surface impoundments), LAC 33:VII.715.F (Type I and II landfarms), and LAC 33:VII.721.E (Type III construction and demolition debris and woodwaste landfills).
 - 1. The post-closure plan for all facilities must include the following:
 - a. specification of the long-term use of the facility after closure, as anticipated; and

Long-term use of the facility after closure will remain industrial.

b. the cost of conducting post-closure of the facility, based on the estimated cost of hiring a third party to conduct post closure activities in accordance with the closure plan.

Not Applicable. The closure plan for the subject surface impoundments specifies clean closure.

- 2. The post-closure plan for Type I and II facilities must include the following:
 - a. the method for conducting post-closure activities, including a description of the monitoring and maintenance activities and the frequency at which they will be performed;

The post-closure monitoring and maintenance activities for this facility will be as follows:

Monitoring

The cap and surrounding area will be inspected after each heavy rain (greater than two inches in a twenty-four hour period) or monthly, which ever comes first. The inspection will include observations of erosion, loss of vegetation, and other damage to the cap

Post-closure groundwater monitoring will not be conducted because the facility will be clean closed.

Maintenance

Maintenance of the cap will consist of mowing, fertilizing, reseeding, berm maintenance, and replacement of signs.

Mowing will be done with a fuel driven, mechanical mower. Mowing of the cap will be done at least quarterly to prevent the establishment of trees and shrubs that might compromise the

cover. Mowing may be done on a more frequent basis if growth inhibits inspection of the cap or at the discretion of the plant manager to suit the aesthetics of the site.

To prevent erosion of the cap, the grasses on the cap and in the immediate area will be fertilized and reseeded on an as-needed basis. Bare spots will be covered with hay, fertilized and reseeded immediately to prevent spot erosion.

b. the method for abandonment of monitoring systems, leachate collection systems, gas-collection systems, etc.;

Prior to the abandonment and plugging of any groundwater monitoring well, a written request with justification for the plugging and abandonment will be submitted to the LDEQ for approval. Written approval will be obtained before any abandonment activities will be initiated. The wells will be plugged and abandoned in accordance with the DOTD guidelines.

c. measures planned to ensure public safety, including access control and gas control; and

A fence surrounds the site. The facility is located within the perimeter of this fence.

The facility is located on private property. Persons entering the facility must identify themselves at the front office and the presence of an escort within the site perimeter is mandatory.

d. a description of the planned uses of the facility during the post-closure period.

There are no plans to utilize the closed facility for the near future.

- L. Financial Responsibility. Standards governing financial responsibility are contained in LAC 33:VII.727. A section documenting financial responsibility according to LAC 33:VII.727 which contains the following information, must be included for all facilities:
 - the name and address of the person who currently owns the land and the name and address of the person who will own the land if the standard permit is granted (if different from the permit holder, provide a copy of the lease or document which evidences the permit holder's authority to occupy the property); or

Sid Richardson Carbon Company is a privately owned, closely held corporation.

Corporate address

201 Main Street, Suite 3000 Fort Worth, Texas 76102

Principal stockholders and officers

Perry R. Bass	Honorary Chairman of the Board
Sid Ř. Bass	Chairman of the Board

Craig F. Strehl President

Mitchell R. Roper Senior Vice President

Nancy Lee Bass Vice President
James E. Wade Vice President
William R. Jones Vice President
Herb A. Trulove Vice President

W.R. Cotham Vice President/Controller &

Secretary

Peter Sterling Vice President-Finance, Chief

Financial Officer and Assistant

Secretary

Gary W. Reese Treasurer

Mark L. Hart, Jr. Assistance Secretary

2. the name of the agency or other public body that is requesting the standard permit; or, if the agency is a public corporation, its published annual report; or, if otherwise, the names of the principal owners, stockholders, general partners, or officers;

The Annual Report is included in Appendix U.

- 3. evidence of liability coverage, including:
 - c. personal injury, employees, and the public (coverage, carriers, and any exclusions or limitations);
 - d. property damage (coverage and carrier);
 - e. environmental risks; and

See Appendix V.

4. evidence of a financial assurance mechanism for closure and/or post-closure care and corrective action for known releases when needed.

See Appendix V.

M. Special Requirements. The administrative authority may require additional information for special processes or systems and for supplementary environmental analysis.

Any additional information required by the Administrative Authority will be supplied upon request.

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PART III ADDITIONAL SUPPLEMENTARY INFORMATION

LAC 33:VII.523

Part III: Additional Supplementary Information

INTRODUCTION

Environmental permit applicants (both new and existing facilities) are required to provide relevant information in response to questions commonly referred to as "IT Questions", which address the potential for facilities to adversely impact the human and natural environment in the vicinity of the proposed or existing facility. These responses must be considered by the LDEQ during the decision–making process on environmental permits pursuant to the Louisiana Supreme decision in the case of <u>Save Ourselves</u>, <u>Inc. vs. Louisiana Control Commission</u>. While this ruling was designed to address impacts associated with new facilities, existing facilities must consider the impacts of continued operation versus the impacts of constructing a new facility at a different location.

The Sid Richardson Carbon Company (Sid Richardson) was granted a permit for an industrial surface impoundment in West Baton Rouge Parish. Since the permit was issued, Sid Richardson has demonstrated a record of environmental compliance and continues to provide economic benefits to the parish. The following responses clearly demonstrate that the potential adverse environmental impacts resulting from the continued operation of the Sid Richardson surface impoundment have been appropriately addressed and pale in comparison to the alternative of constructing a new facility in West Baton Rouge Parish to provide this service.

A. A discussion demonstrating that the potential and real adverse environmental effects of the facility have been avoided to the maximum extent possible;

To avoid to a maximum extent possible the real and potential adverse environmental effects of the facility, Sid Richardson Carbon Company has developed and implemented employee training program, process/new technology reviews, company policy, and control structures.

Employee Training Programs - Sid Richardson has made a conscience effort to emphasize the importance of properly training all employees in every facet of their job function. A properly trained employee is less likely to have an accident that may lead to an injury or have an adverse effect on the environment.

Examples of annual training programs developed for all employees are:

- Job function.
- Solid waste rules and regulations,
- Storm water pollution prevention,
- Spill prevention control and countermeasures,
- Hazardous communication.
- Employee right-to-know
- · Emergency handling procedures.

<u>Process/New Technology Reviews</u> - One of the responsibilities of in-plant and corporate engineering is to review current production processes for inefficiencies such as waste. Engineering is also responsible for developing or reviewing new technology that may contribute to waste reduction.

<u>Company Policy</u> - Corporate company policy has been developed to reduce waste and prevent adverse effects on the environment. As previously stated in Part II of this application, Sid Richardson uses the subject surface impoundments to dispose of one solid waste, carbon black. The carbon black is generated from the routine maintenance of equipment and the clean up of small spills. The waste carbon black is carried to the surface impoundments via storm water run-off and wash water. To prevent the possible contamination of the carbon black and wastewater, it is corporate policy no chemicals or soaps may be used to clean equipment or the process area.

<u>Control Structures</u> - Dikes have been placed around the surface impoundments to protect surface waters from run-off and the impoundments from run-on.

B. A cost-benefit analysis demonstrating that the social and economic benefits of the facility outweigh the environmental-impact costs;

The environmental impact costs for the subject surface impoundments are extremely low. Carbon black poses little if any threat to human health, flora, fauna or to animals. There is little or no nuisance or threats as a result of gas formation, odor, vermin, blowing, or entrainment of the waste in surface waters. Surrounding properties are protected by a means of a 200-foot buffer zone. Unauthorized humans and livestock are kept out of the facility by means of fencing, posted signs, and locked gates. No known historical sites, recreational areas, wildlife areas, or wetlands will be damaged or destroyed. Carbon black disposed in the surface impoundment is not soluble in water and therefore will not leak into the groundwater.

C. A discussion and description of possible alternative projects which would offer more protection to the environment without unduly curtailing nonenvironmental benefits;

Alternative projects do not exist that would offer more protection to the environment without unduly curtailing non-environmental benefits. A certain amount of waste carbon black will always be produced from the production process. A surface impoundment is the most economical and environmentally friendly means to temporarily dispose of the waste until final disposition at an approved landfill.

D. A discussion of possible alternative sites that would offer more protection to the environment without unduly curtailing nonenvironmental benefits; and

An alternative facility would not offer more protection to the environment without unduly curtailing non-environmental benefits. Transportation of the wastewater/carbon black mixture on a 24 hour/7 day a week schedule to an off-site

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treatment facility for processing and ultimate disposal would be far too cost prohibitive for the facility to remain in operation.

E. A discussion and description of the mitigating measures which would offer more protection to the environment than the facility, as proposed, without unduly curtailing nonenvironmental benefits.

Measures which have been discussed in LAC 33.VII.5.A and in Part II of this application for protection of the environment are regarded to be optimal from the standpoint of benefit versus cost.

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TABLE 1 MONITOR WELL CONSTRUCTION DATA

TABLE 2 CLOSURE COST ESTIMATES